

### **REMARKS**

In view of the following discussion, none of the claims now pending in the application are unpatentable, anticipated or obvious under the provisions 35 U.S.C. §§ 101, 102 and 103. Claims 1, 8 and 11 are amended. Support for the amendment may be found in the specification on at least paragraph [0044] and FIG. 1. Various additional claims were amended to address various informalities. Claim 2 is canceled without prejudice. No new matter was added. Thus, all of the claims are now in allowable form.

The Assignee's representative thanks the Examiner for taking time out of their busy schedule to speak with Assignee's representative, Chin B. Kim, Reg. No. 54,220 on June 3, 2010. The Examiner indicated that the above amendments appeared to advance prosecution over the current prior art. However, if the Examiner re-considers upon further review, the Examiner is encouraged to contact the Assignee's representative should further discussion be helpful.

### **I. SUBSTANCE OF INTERVIEW OF JUNE 3, 2010**

In response to the Interview Summary mailed on June 7, 2010 regarding the interview held on June 3, 2010, the following statements regarding the substance of the interview are submitted. This statement is being submitted in order to comply with the instructions of the Interview Summary.

- A) No exhibits or demonstrations were conducted.
- B) Claim 1 was discussed.
- C) The Rabie reference was discussed.
- D) The reference was discussed along with possible amendments.
- E) The Examiner's Interview Summary accurately describes the substance of the interview.
- F) No other pertinent matters were discussed.
- G) No agreement was reached.

## **II. REJECTION OF CLAIM 11 UNDER 35 U.S.C. § 101**

The Examiner rejected claim 11 under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. Responsive to the Examiner, claim 11 is amended to recite a "non-transitory computer readable medium." As a result, claim 11 now satisfies the requirements of 35 U.S.C. § 101. Thus, the rejection should be withdrawn.

## **III. REJECTION OF CLAIMS 1, 2, 4, 5 AND 7-11 UNDER 35 U.S.C. § 102**

The Examiner rejected claims 1, 2, 4, 5 and 7-11 as being anticipated by Rabie, et al. (U.S. Patent No. 7,333,438, issued on February 19, 2008, hereinafter referred to as "Rabie"). Claim 2 is canceled without prejudice. The remaining rejection is respectfully traversed.

Rabie discloses a priority and policy based recovery in connection-oriented communication networks. (See Rabie, Abstract).

The Examiner's attention is directed to the fact that Rabie fails to describe or to suggest the novel concept of a method, apparatus or computer readable medium for reducing signaling load in a communication network having a plurality of switches, comprising identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second plurality of circuits comprises a path of a plurality of links, bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch and forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure, as positively claimed by independent claims 1, 8 and 11. Specifically, independent claims 1, 8 and 11 recite:

1. A method for reducing signaling load in a communication network having a plurality of switches, the method comprising:
  - receiving a notification of a link failure at a first switch and a second switch adjacent to a link associated with the link failure;
  - identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second plurality of circuits comprises a path of a plurality of links;
  - grouping affected circuits in accordance with a first plurality of end-switches to which a first plurality of signaling messages have to be sent by the first switch and a second plurality of end-switches to which a second plurality of signaling messages have to be sent by the second switch;
  - bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch; and
  - forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure. (Emphasis added).
8. An apparatus for reducing signaling load in a communication network having a plurality of switches, the apparatus comprising:
  - a first switch comprising a first controller adjacent to a link associated with a link failure for receiving a notification of the link failure, and for identifying a first plurality of circuits in a first direction affected by the link failure, wherein each circuit of the first plurality of circuits comprises a path of a plurality of links, and for grouping affected circuits in accordance with a first plurality of end-switches to which a first plurality of signaling messages have to be sent, for bundling the first plurality of signaling messages and forwarding the first plurality of signaling messages that are bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure; and
  - a second switch comprising a second controller adjacent to the link associated with the link failure for receiving a notification of the link failure, and for identifying a second plurality of circuits in a second direction affected by the link failure, wherein each circuit of the second plurality of circuits comprises a path of a plurality of links, and for grouping affected circuits in accordance with a second plurality of end-switches to which a second plurality of signaling messages have to be sent, for bundling the second plurality of signaling messages and forwarding the second plurality of signaling messages that are bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure. (Emphasis added).

11. A non-transitory computer-readable medium having stored thereon a plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to perform a method comprising of:

receiving a notification of a link failure at a first switch and a second switch adjacent to a link associated with the link failure;

identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second plurality of circuits comprises a path of a plurality of links;

grouping affected circuits in accordance with a first plurality of end-switches to which a first plurality of signaling messages have to be sent by the first switch and a second plurality of end-switches to which a second plurality of signaling messages have to be sent by the second switch;

bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch; and forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure. (Emphasis added).

In one embodiment of the disclosure, a method, apparatus or computer readable medium are for reducing signaling load in a communication network having a plurality of switches, comprising identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second plurality of circuits comprises a path of a plurality of links, bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch and forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure. For example, when a failure of a link is detected, a switch

adjacent to the link that fails will group affected circuits with a common end switch. (See e.g., Specification, para. [0044] and [0049]). Subsequently, the switch bundles the messages for the circuits in the group into one or more signaling packets and sends the packet(s) to the respective end switch. (See *Id.* at para. [0052]).

Rabie fails to anticipate independent claims 1, 8 and 11 because Rabie fails to describe or suggest a method, apparatus or computer readable medium for reducing signaling load in a communication network having a plurality of switches, comprising identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second plurality of circuits comprises a path of a plurality of links, bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch and forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure. Rabie only discloses that the core node 18C sends messages out towards the edge nodes 16A and 16B. (See Rabie, FIG. 1, col. 4, ll. 41-44). However, Rabie fails to describe or suggest that each adjacent node to the failed link transmits messages away in both directions. In other word, Rabie only discloses at best that a single node performs the bundling in a single direction. Therefore, Rabie clearly fails to anticipate independent claims 1, 8 and 11.

Moreover, dependent claims 4, 5, 7, 9 and 10 depend from independent claims 1 and 8, respectively, and recite additional limitations. As such, and for the exact same reason set forth above, claims 4, 5, 7, 9 and 10 are also patentable and not anticipated by Rabie. As such, the rejection should be withdrawn.

#### **IV. REJECTION OF CLAIM 3 UNDER 35 U.S.C. § 103**

The Examiner rejected claim 3 as being unpatentable under 35 U.S.C. § 103 over Rabie in view of Doshi, et al. (U.S. Patent Publication No. 2004/0008619, published on January 15, 2004, hereinafter referred to as "Doshi"). The rejection is respectfully traversed.

The disclosure of Rabie is discussed above. Doshi discloses bundling messages in communication networks. When a failure occurs, a node may bundle received connection request over an alternate path. (See Doshi, Abstract, para. [0030] – [0036]).

The Examiner's attention is directed to the fact that Rabie and Doshi, alone or in any permissible combination, fail to describe or to suggest a method, apparatus or computer readable medium for reducing signaling load in a communication network having a plurality of switches, comprising identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second plurality of circuits comprises a path of a plurality of links, bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch and forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure, as positively claimed by independent claims 1, 8 and 11. (See *supra*). As discussed above the alleged combination (as taught by Rabie) clearly fails to describe or suggest a method, apparatus or computer readable medium for reducing signaling load in a communication network having a plurality of switches, comprising identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second

plurality of circuits comprises a path of a plurality of links, bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch and forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure.

Moreover, Doshi fails to bridge the substantial gap left by Rabie because Doshi also fails to describe or suggest a method, apparatus or computer readable medium for reducing signaling load in a communication network having a plurality of switches, comprising identifying a first plurality of circuits in a first direction affected by the link failure by the first switch and identifying a second plurality of circuits in a second direction affected by the link failure by the second switch, wherein each circuit of the first plurality of circuits and the second plurality of circuits comprises a path of a plurality of links, bundling the first plurality of signaling messages by the first switch and the second plurality of signaling messages by the second switch and forwarding the first plurality of signaling messages that is bundled to one of the first plurality of end-switches by the first switch in the first direction away from the link failure and forwarding the second plurality of signaling messages that is bundled to one of the second plurality of end-switches by the second switch in the second direction away from the link failure. Doshi only discloses that when a failure occurs, a node may bundle received connection request over an alternate path. (See Doshi, Abstract, para. [0030] – [0036]). Therefore, the combination of Rabie and Doshi clearly fails to render obvious independent claims 1, 8 and 11.

Moreover, dependent claim 3 depends from independent claim 1 and recites additional limitations. As such, and for the exact same reason set forth above, claim 3 is also patentable over Rabie and Doshi. As such, the rejection should be withdrawn.

**CONCLUSION**

Thus, all the claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 842-8110 x130 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully Submitted,

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